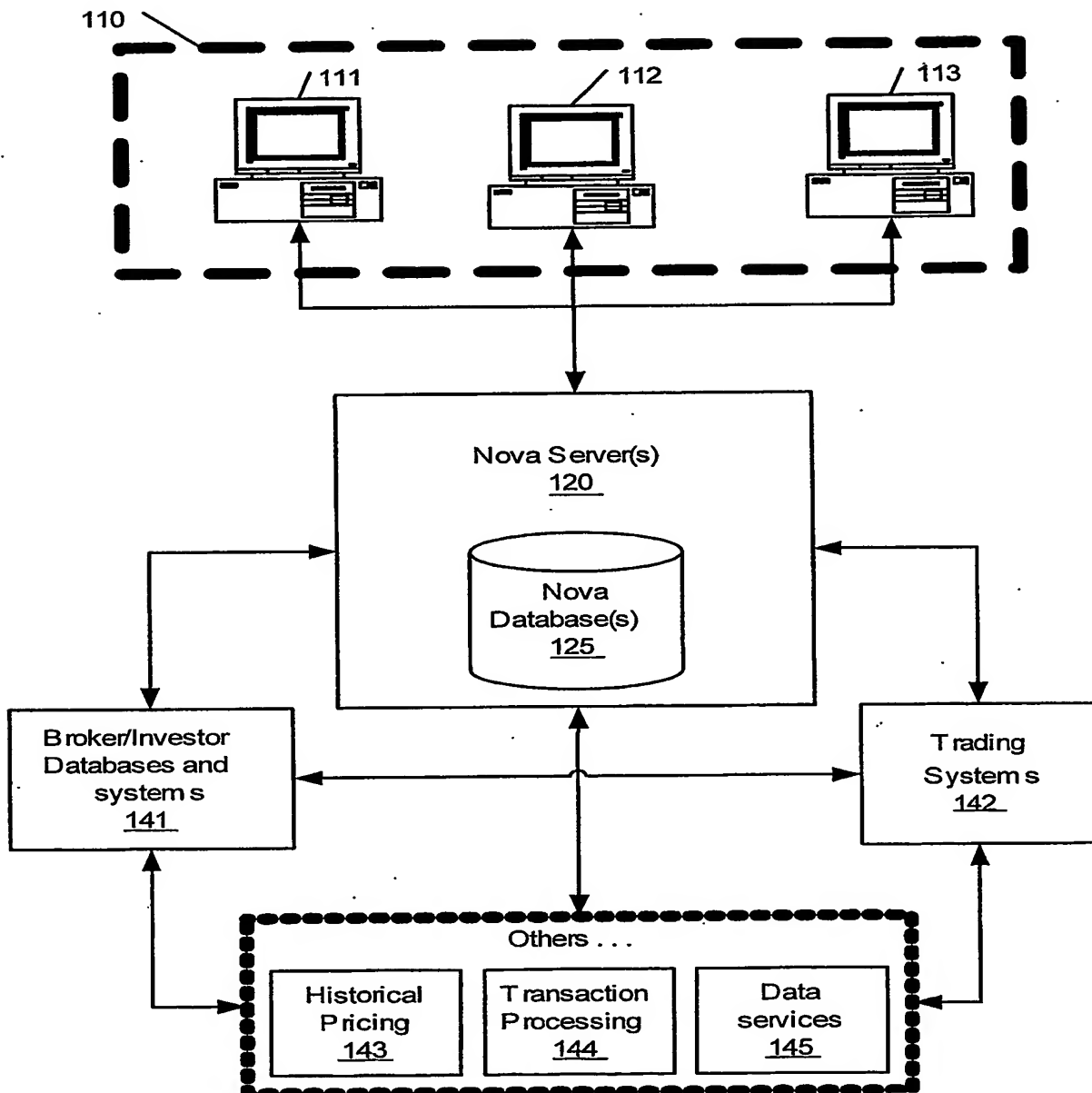


100

Fig. 1



# Application Environment

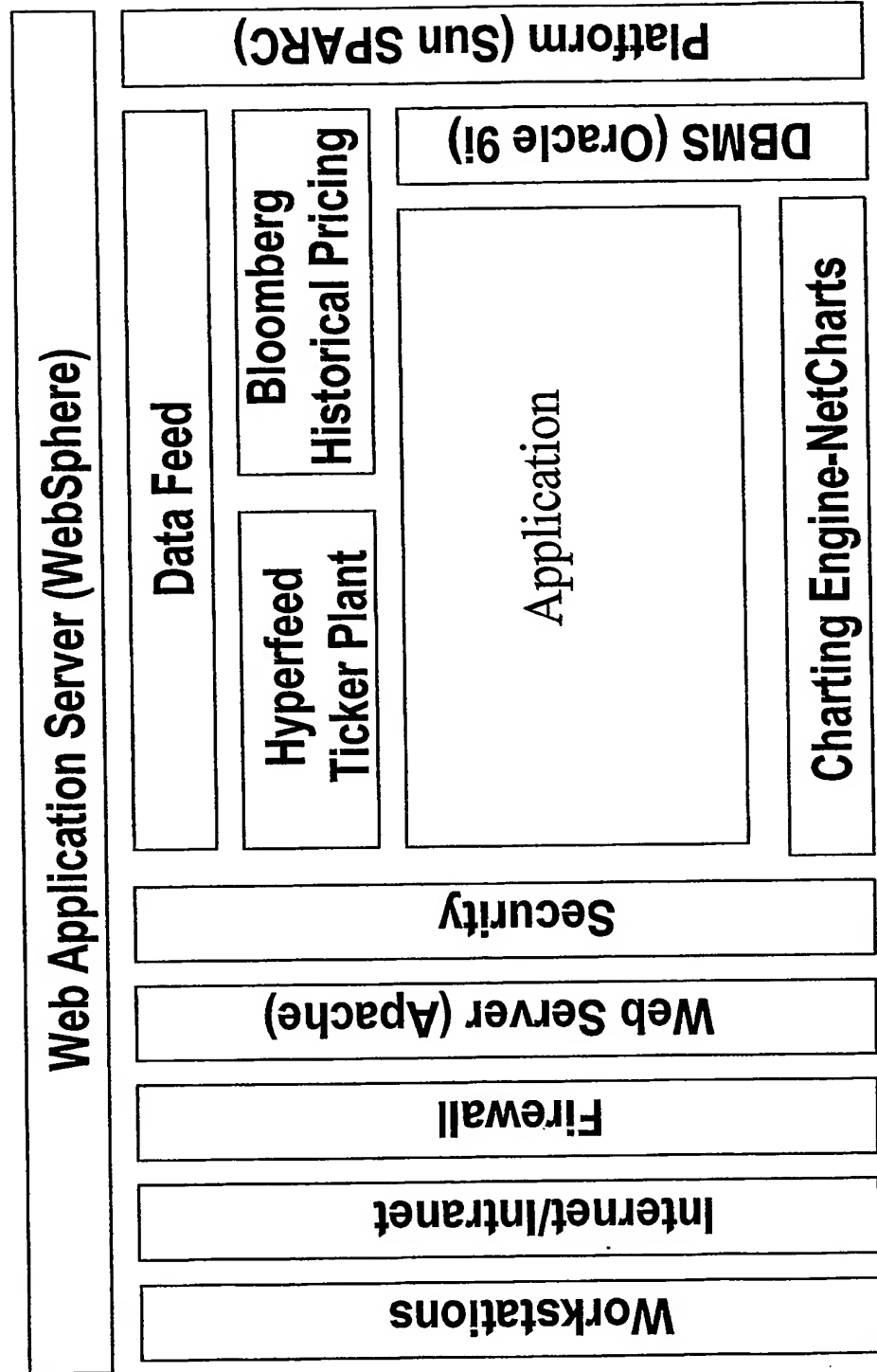


Fig. 2

# Application Flow

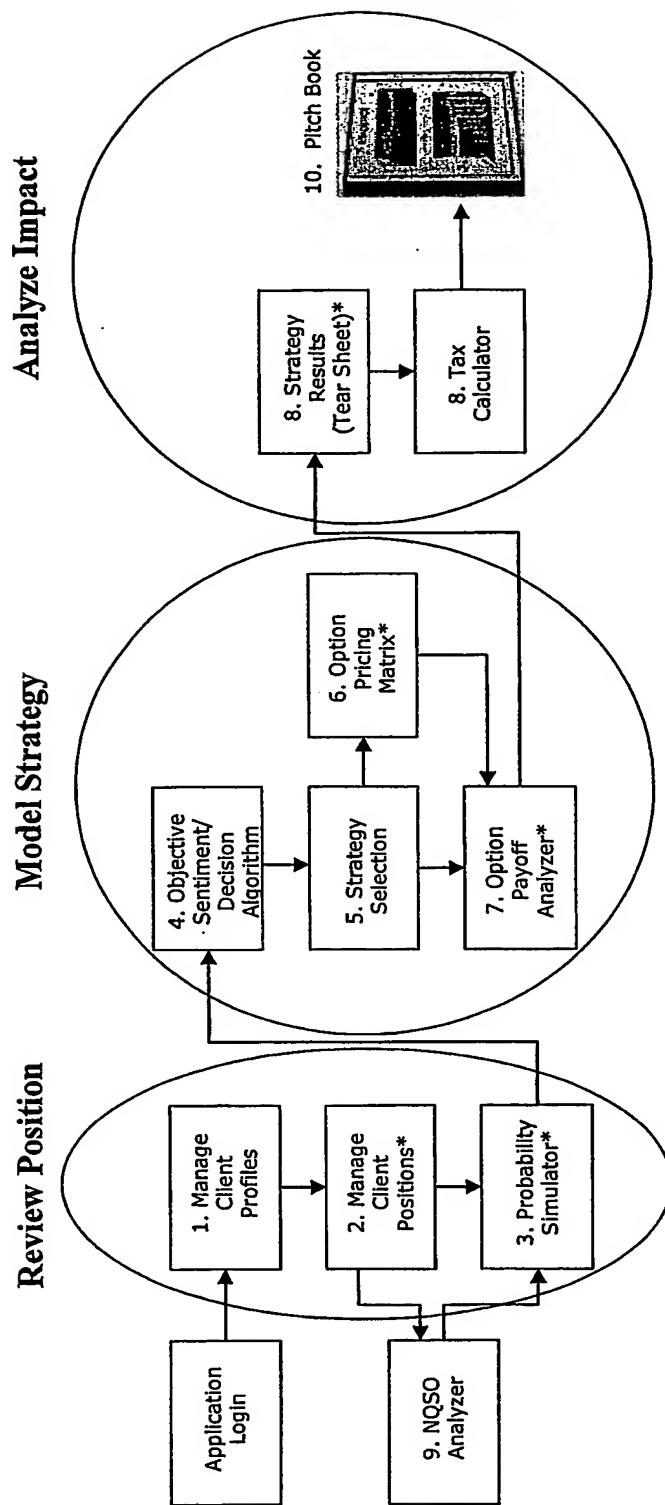


Fig. 3

## Risk Management--Orientation Diagram

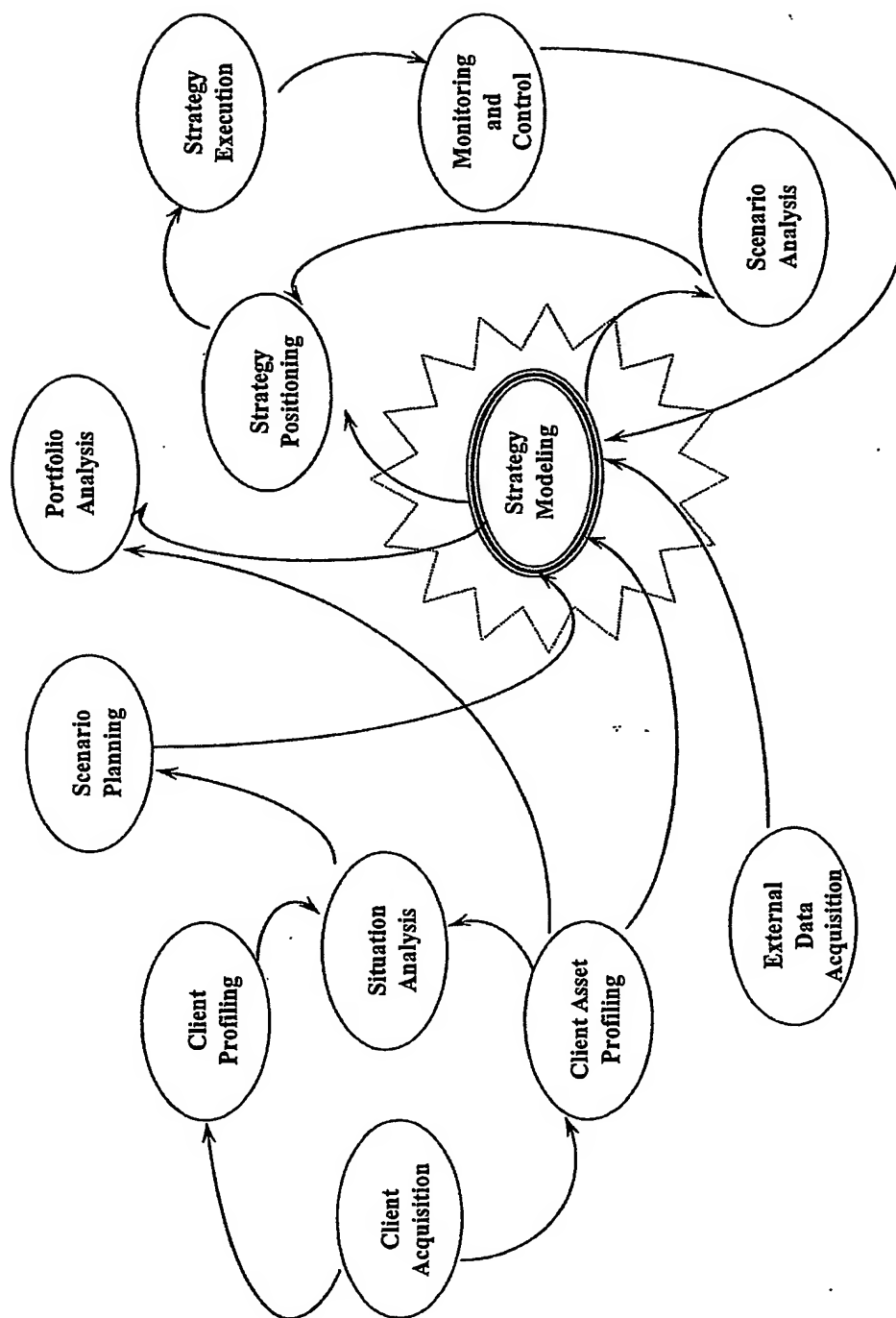


Fig. 4

Fig. 5 - Comparison of Protection Strategies

Strategy	Purpose			Trade Structure	General Characteristics
	Downside Protection	Upside Appreciation	Other		
Call Spread Collar	Yes	Limited		1. Buy OTM Put 2. Sell OTM Call 3. Buy OTM Call	<ul style="list-style-type: none"> <li>Client establishes floor price below current spot</li> <li>Client finances cost of downside insurance</li> <li>Structured to eliminate need to pay option premium</li> </ul>
Cashless Collar	Yes			1. Buy OTM Put 2. Sell OTM Call	<ul style="list-style-type: none"> <li>Client establishes floor price below current spot</li> <li>Client finances cost of downside insurance</li> <li>Structured to eliminate need to pay option premium</li> </ul>
Credit Collar	Yes		Generates Cash flow	1. Buy OTM Put 2. Sell more OTM Calls	<ul style="list-style-type: none"> <li>Client establishes floor price below current spot</li> <li>Client finances cost of downside insurance</li> <li>Structured so call premium &gt; cost of put creating net credit</li> </ul>
Participating Collar	Yes	Complete on portion		1. Buy OTM Puts 2. Sell fewer OTM Calls	<ul style="list-style-type: none"> <li>Client establishes floor price below current spot</li> <li>Client finances cost of downside insurance</li> <li>Structured to eliminate need to pay option premium</li> </ul>
Prepaid Variable Forward	Yes		Monetization of Position	1. Buy Put 2. Sell Call	<ul style="list-style-type: none"> <li>Sells position in forward transaction</li> <li>Protects position with embedded collar that will determine number of shares to be delivered to finalize sale.</li> </ul>
Protective Put	Yes			1. Buy ATM Puts	<ul style="list-style-type: none"> <li>Client establishes protective position with ATM Puts</li> </ul>
Put Spread	Limited			1. Buy Put 2. Sell Put	<ul style="list-style-type: none"> <li>Client establishes protective position with ATM Puts</li> <li>Similar to Protective Put but with reduced total premium</li> </ul>
Put Spread Collar	Limited	Yes		1. Buy OTM Put 2. Sell more OTM Puts	<ul style="list-style-type: none"> <li>Client establishes the put spread decreasing total premium</li> <li>Client finances cost of put spread</li> <li>Structured to eliminate need to pay option premium</li> </ul>

Fig. 6 - Strategy Performance

Strategy		Position Price		Status		Retain stock appreciation but forgo appreciation equal to the difference between the put strike and the underlying stock price at expiration		Maximum outperformance at strike of two short options		Special	
Cashless Collar	Above Call Strike	Call ITM	X								
	Below Put Strike	Put ITM		X							
Credit Collar	Above Call Strike	Call ITM	X								
	Below Put Strike	Put ITM		X							
Put Spread Collar	Above Call Strike	Call ITM	X								
	Below Long Put Strike	Long Put ITM		X							
	Below Short Put Strike	Short Put ITM									Must settle difference between the spot and short put strike less amount of spread
Prepaid Variable Forward	Need more info	Need more info									Client receives a set payment amount per share on a forward basis OR Delivers a variable number of shares to counterparty at expiry of trade based on close of the underlying and prepayment value
Participating Collar	Above Call Strike	Call ITM	X								
	Below Put Strike	Put ITM		X							
Call Spread Collar	Above Short Call Strike	Short Call ITM		X							
	Above Long Call Strike	Long Call ITM		X							
	Below Put Strike	Put ITM	X								
Protective Put	Below Long Put Strike	Put ITM		X							OR - Deliver stock and receive cash value of stock
Put Spread	Below Long Put Strike	Put ITM		X							OR - Deliver stock and receive cash value of stock
Call Write	Above Call Strike	Call ITM									Let shares be called away at strike price
Bull Butterfly	Any level between Wings	Butterfly ITM				X					
	Stays flat or Runs Past Spread	Neutral							X		
Bear Butterfly	Any level between Wings	Butterfly ITM				X					
	Stays flat or Runs Past Spread	Neutral								X	

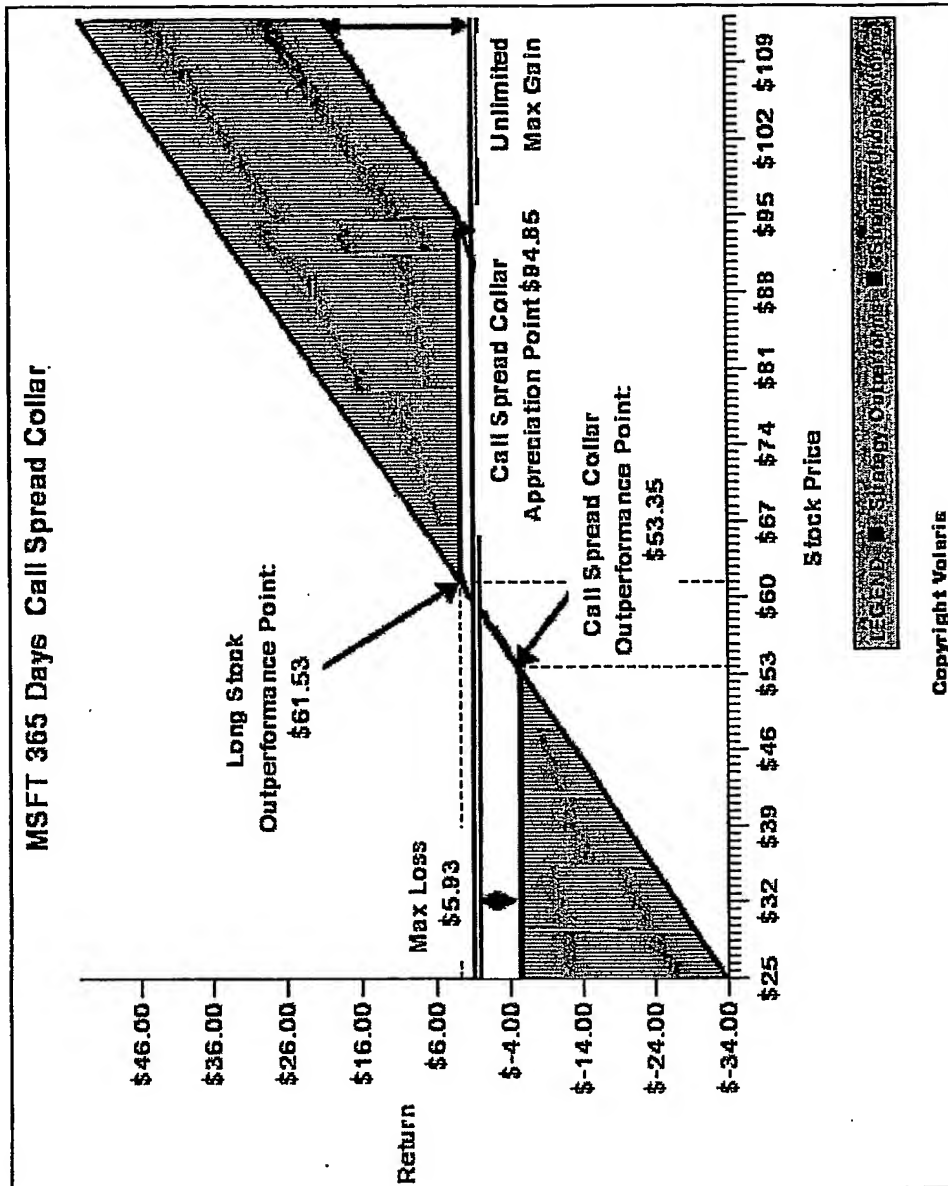


Fig. 7

Payoff Analyzer / Call Spread Collar

Strategy Matrix > Payoff Analy

Call Spread Collar

59.28 0.0 2.13

Buy Put Sell Call	Strike (\$)	Days to Maturity	Volatility (%)	Payoff	Payoff (\$)	Payoff (%)	Payoff (\$)	Payoff (%)
1 Buy Put Sell Call	90.0	365	Day	48.54	2.13	49.27%	\$-7.59	-0.311
2 Sell Call	103.8%	365	Day	48.54	2.13%	36.14%	\$10.99	-0.583
3 Buy Call	160.0	365	Day	48.54	2.13%	12.16%	\$-3.4	0.248
							\$0.0	-0.848

Backtest Equity Parameters Calculate Capture

Fig. 8



10/505298

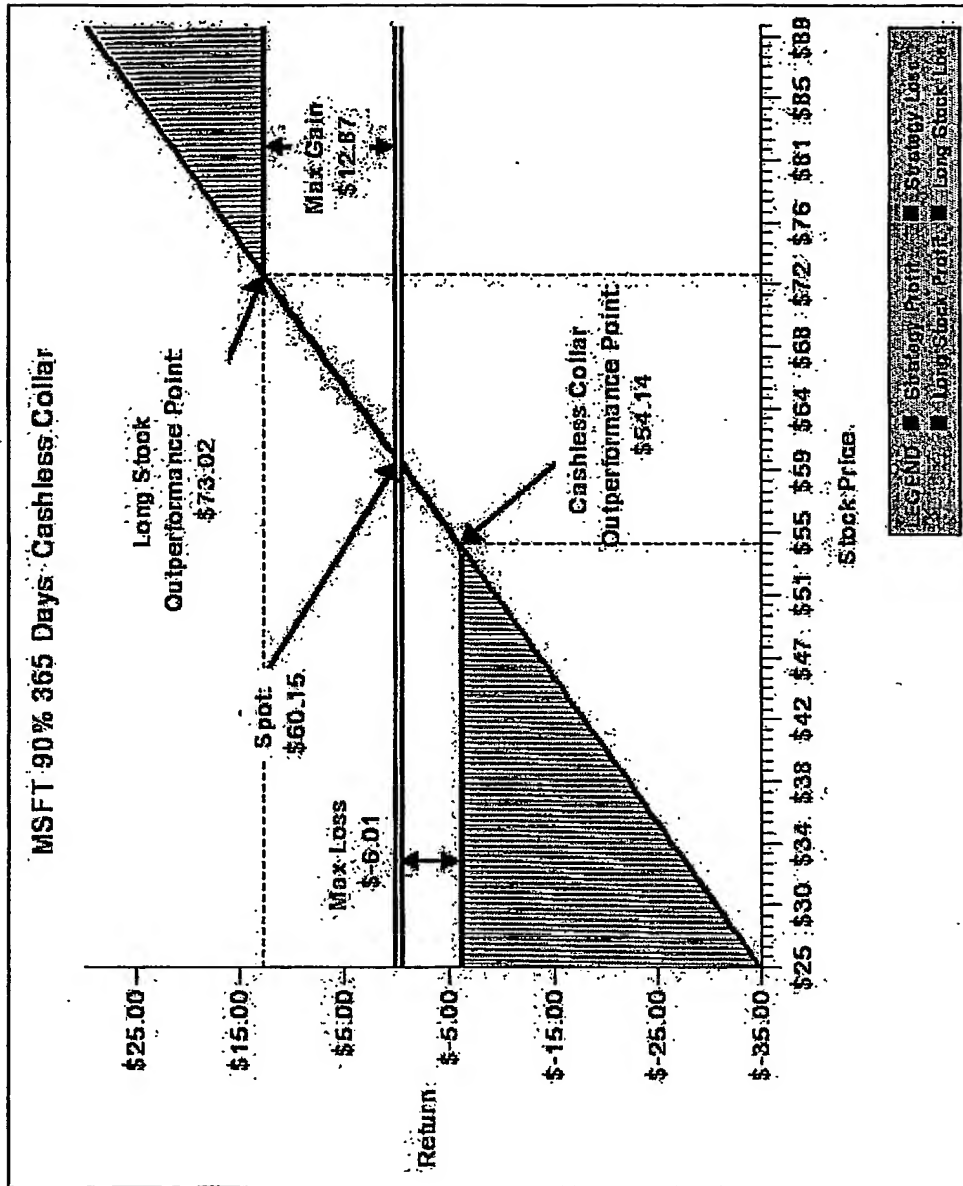


Fig. 9

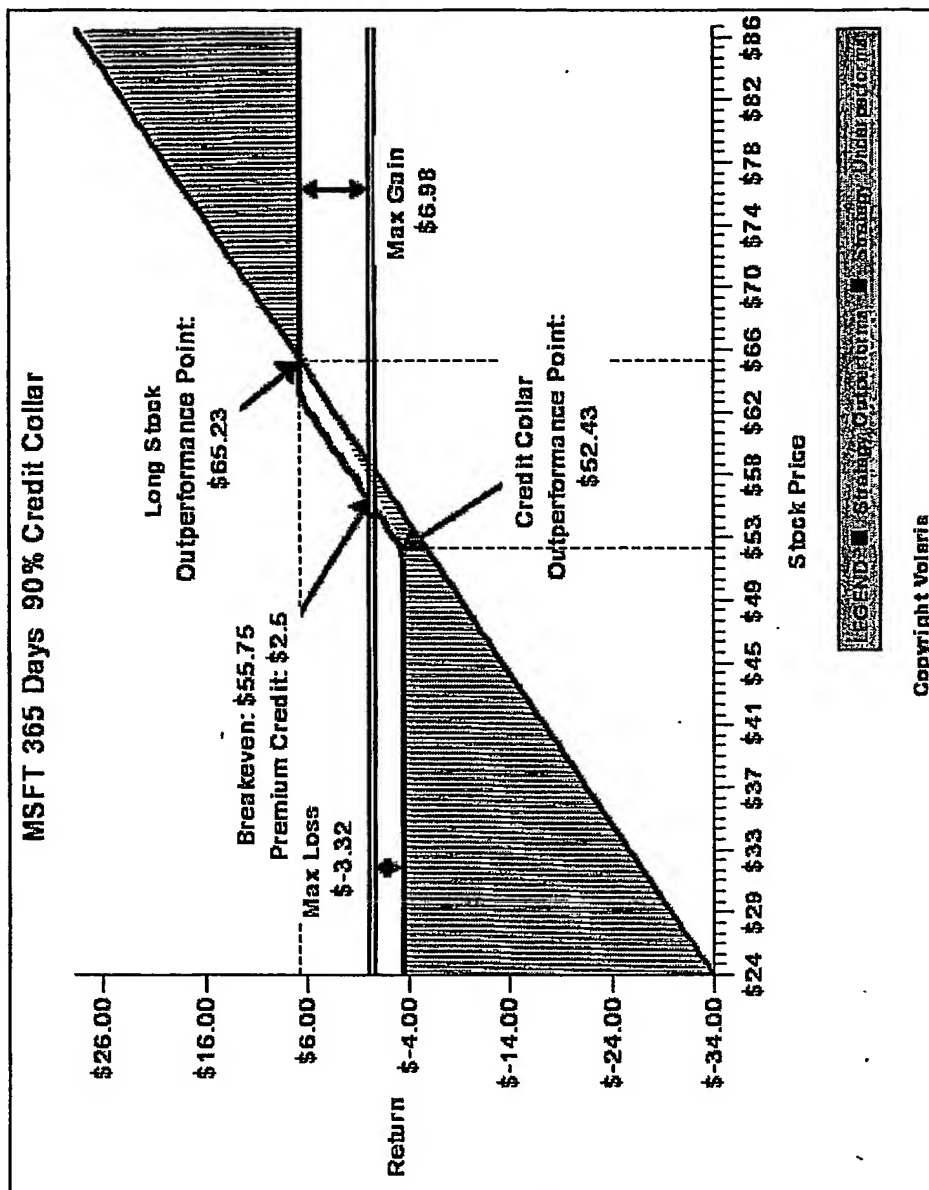


Fig. 10

Participating Collar										Open   Save		
Participating Collar												
Buy/Put Sell/Call	Q1	Strike(%)	Strike(\$)	Time-To-Maturity	Pricing Volatility(%)	Interest Rate(%)	Proportion	Premium	Delta	Gamma	Vega	Rho
1 Buy Put	1.0	90.0	\$51.69	365 Day	48.62	2.13	49.31%	\$-7.37	-0.311	0.0129	0.201	-0.208
2 Sell Call	0.75	107.75%	\$61.88	365 Day	48.62	2.13%	36.21%	\$7.37	-0.415	-0.0106	-0.17	-0.165
Please enter the participating % of shares: 75.0 %							Total	\$0.0	-0.726			
Back to Equity Parameters										Calculate	Capture	

Fig. 11

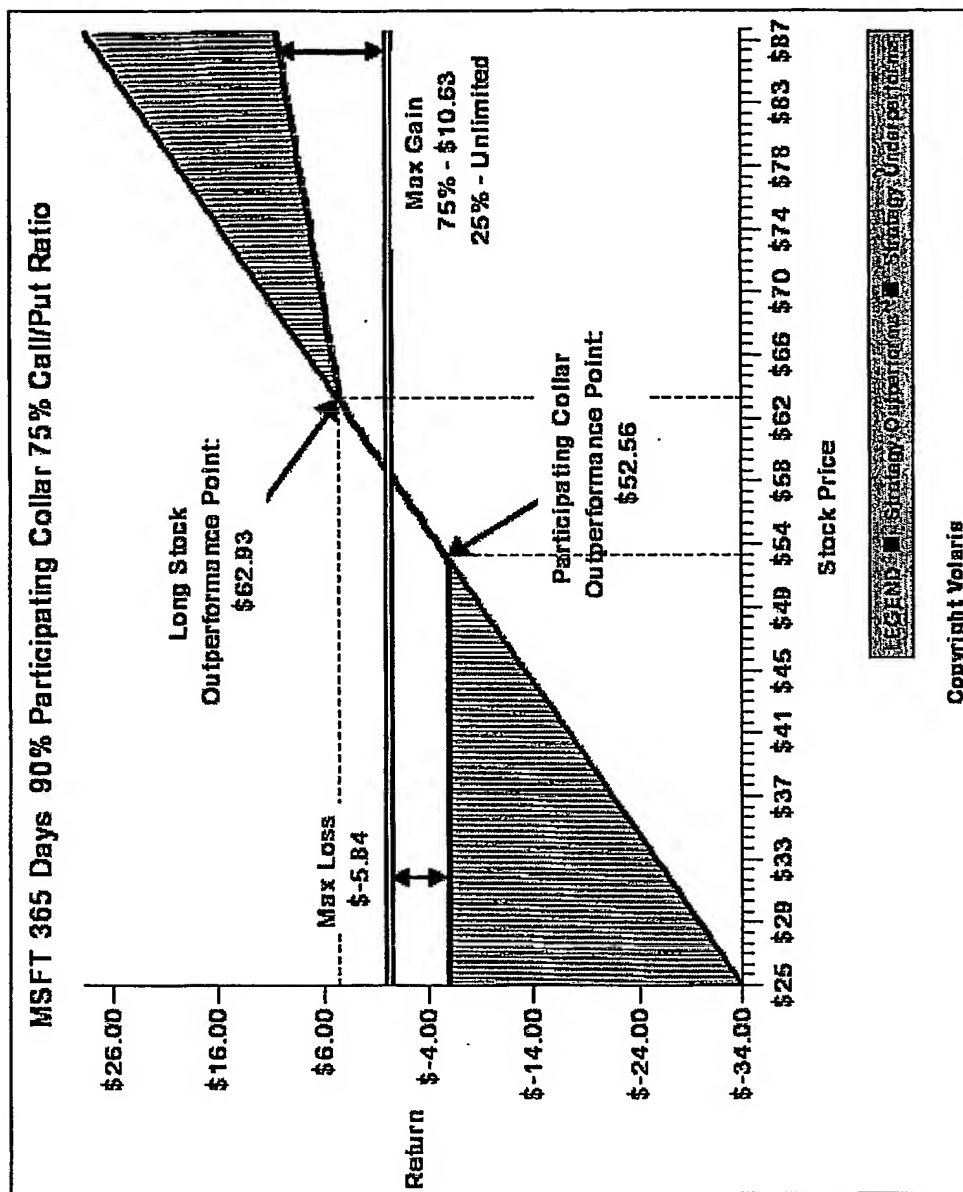


Fig. 12

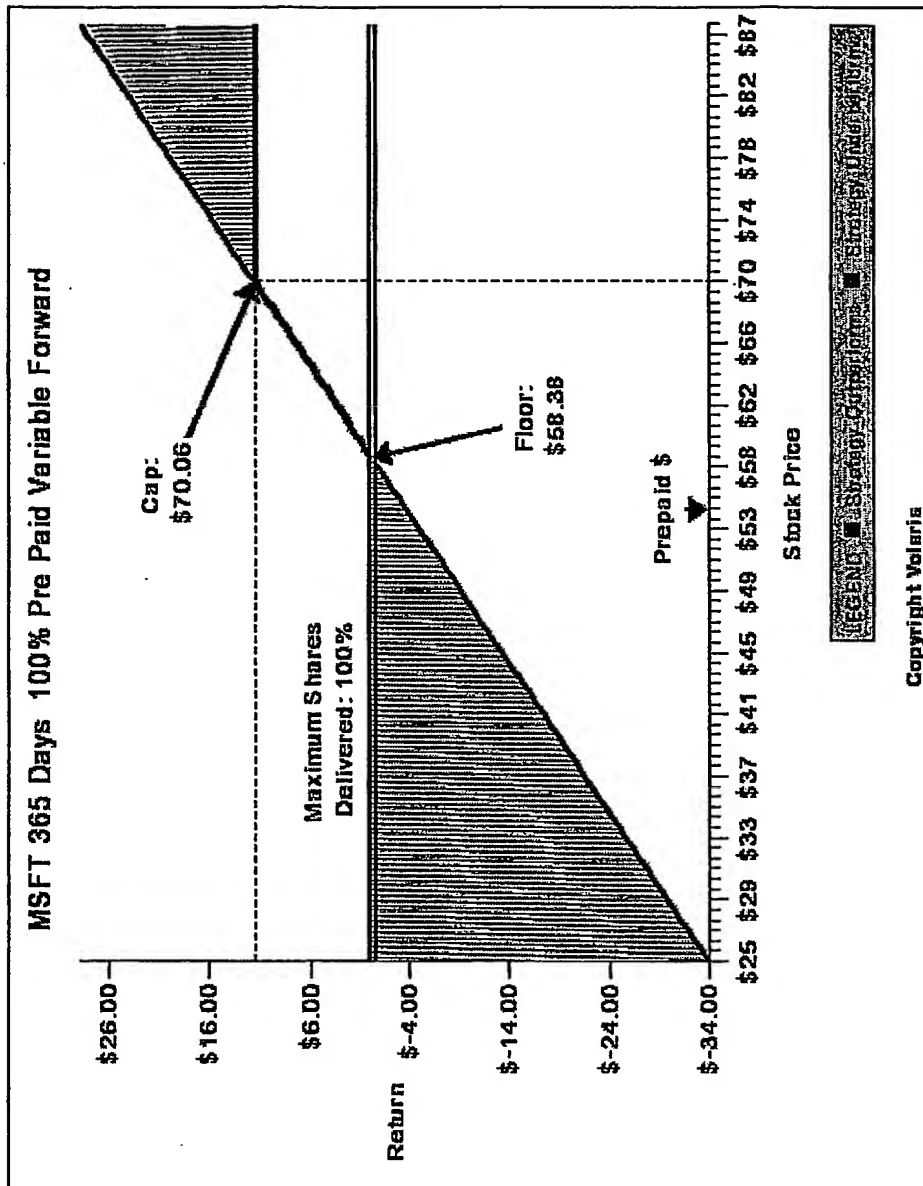


Fig. 13

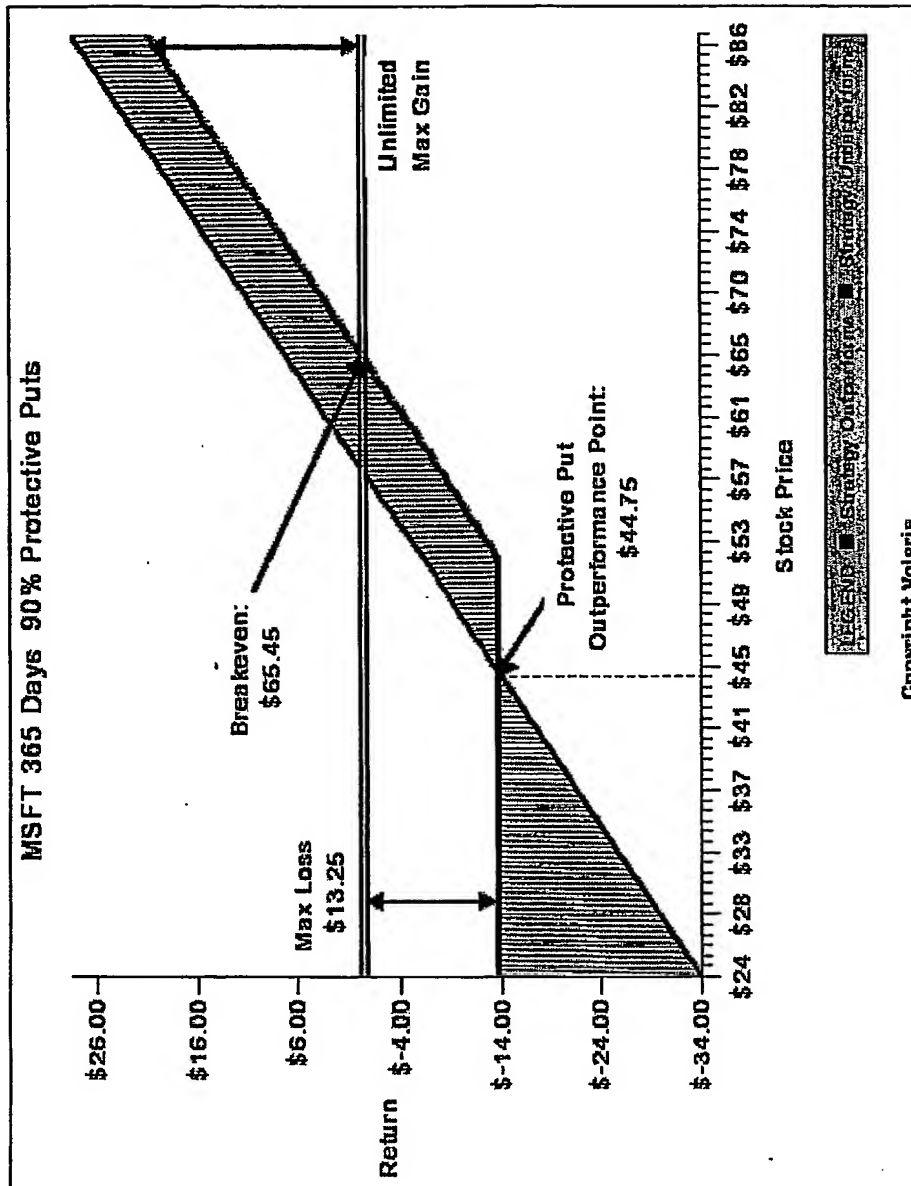


Fig. 14

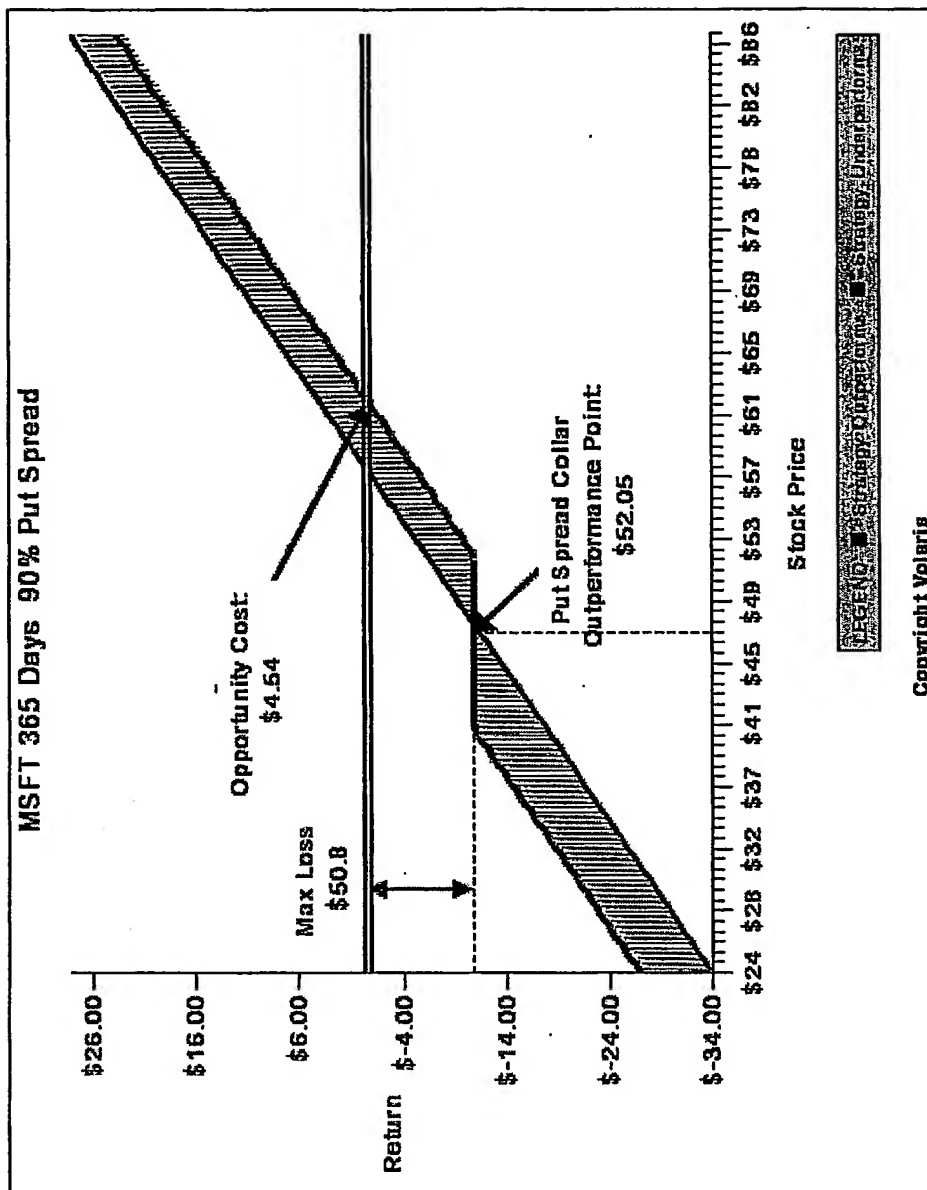


Fig. 15

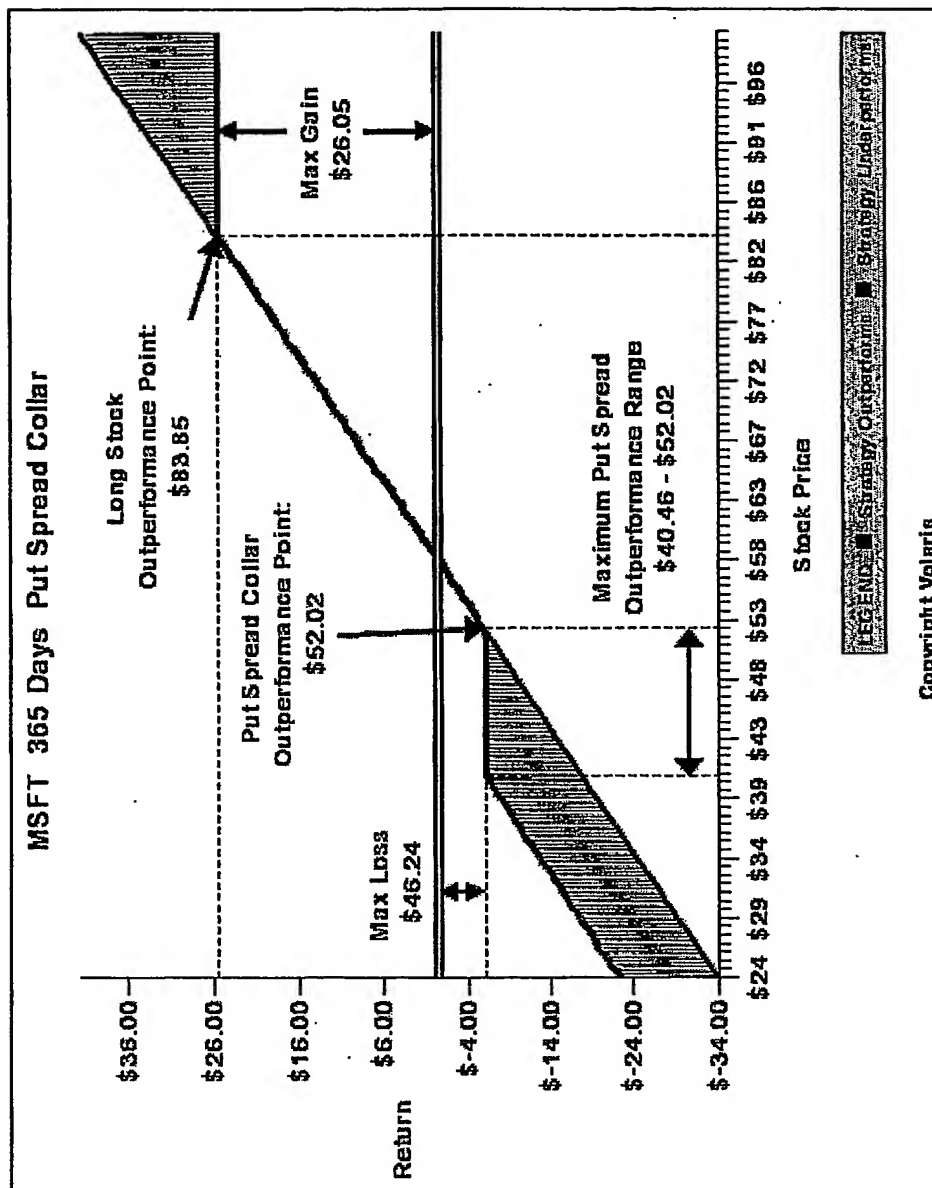


Fig. 16



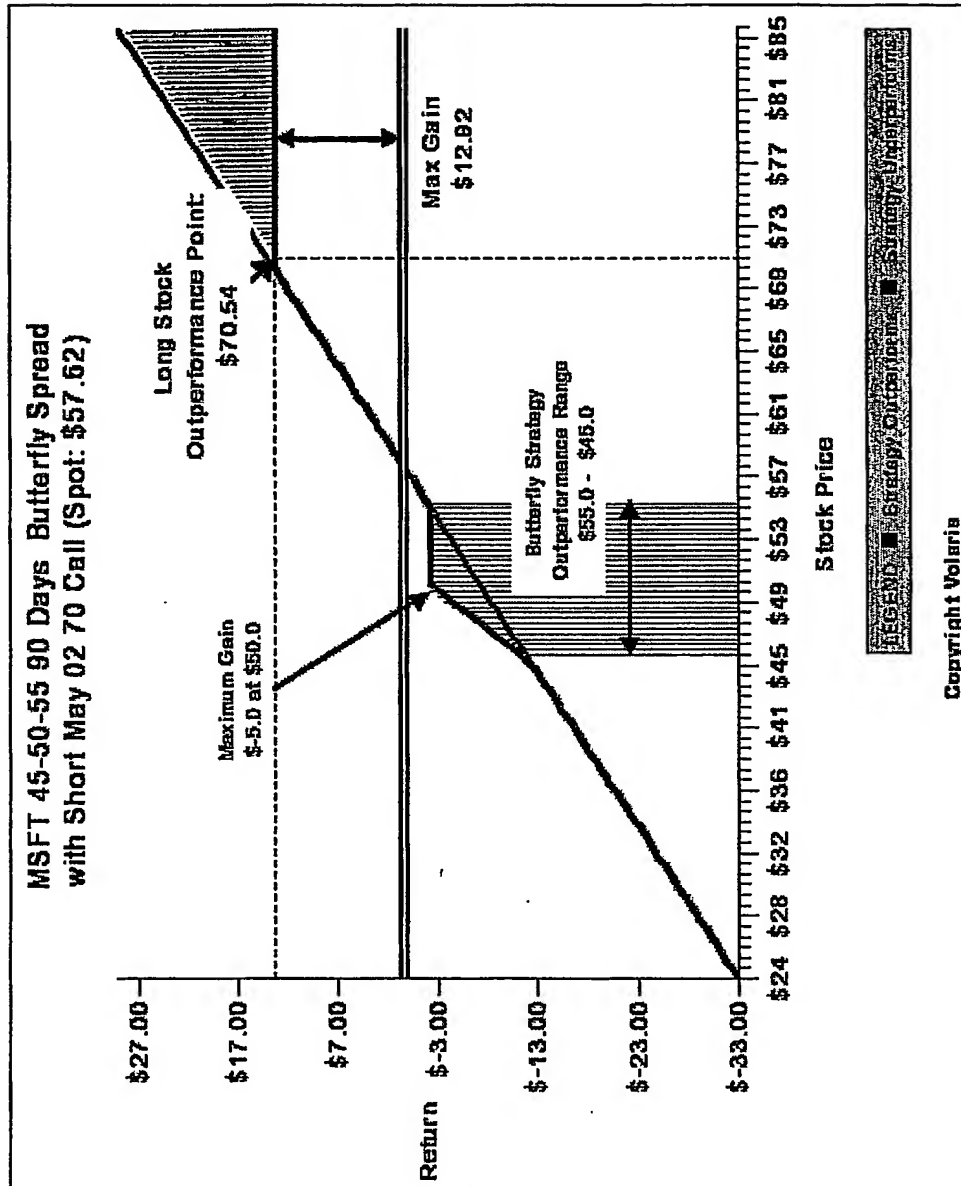


Fig. 17

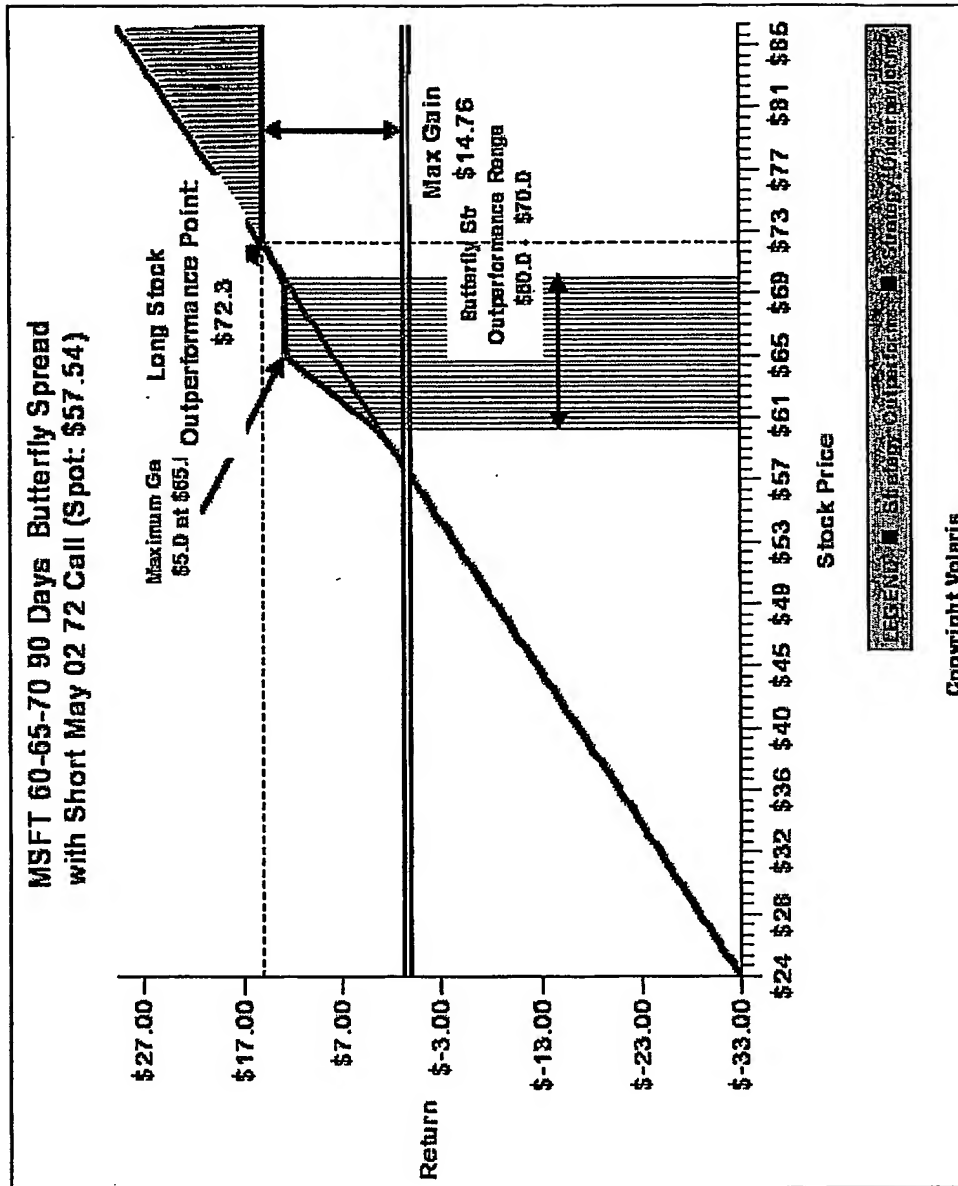


Fig. 18

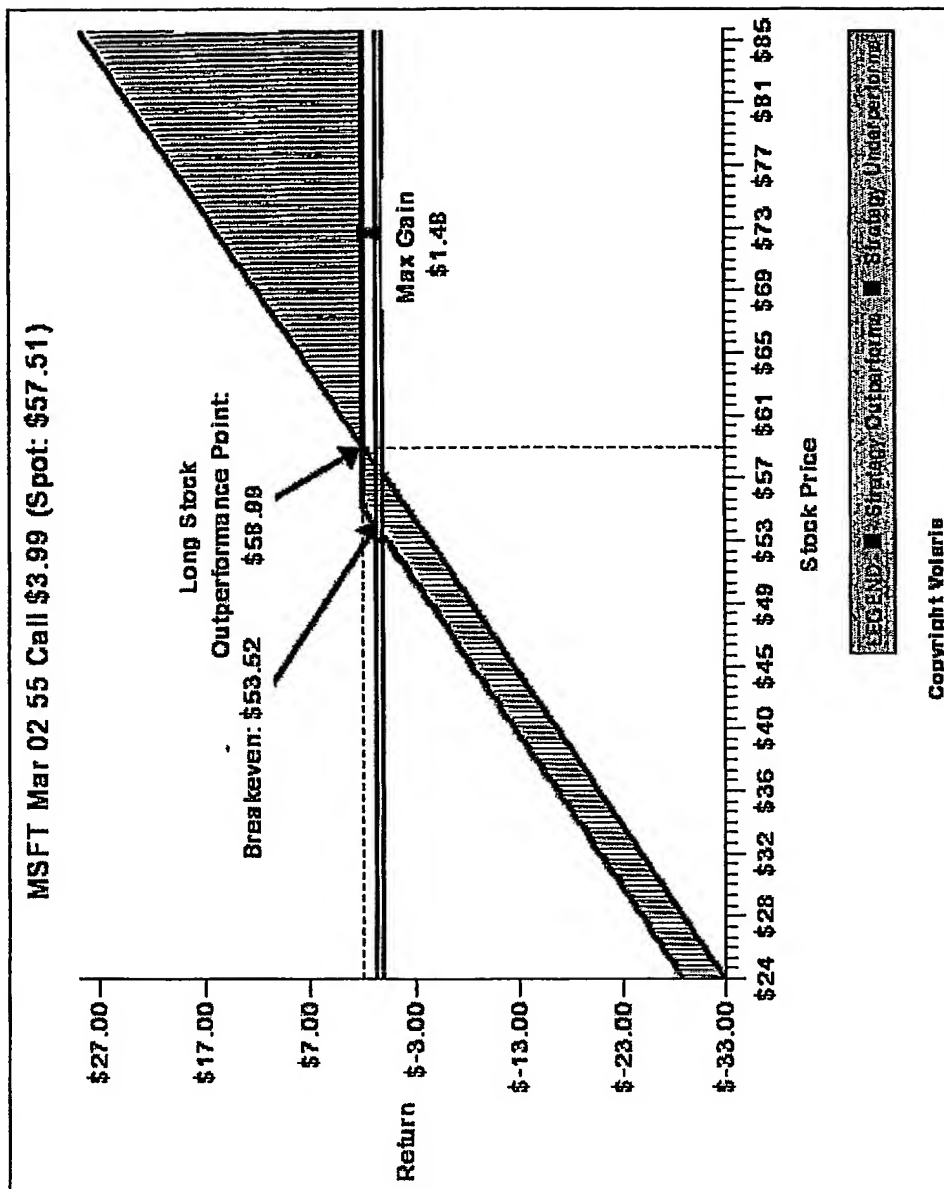


Fig. 19

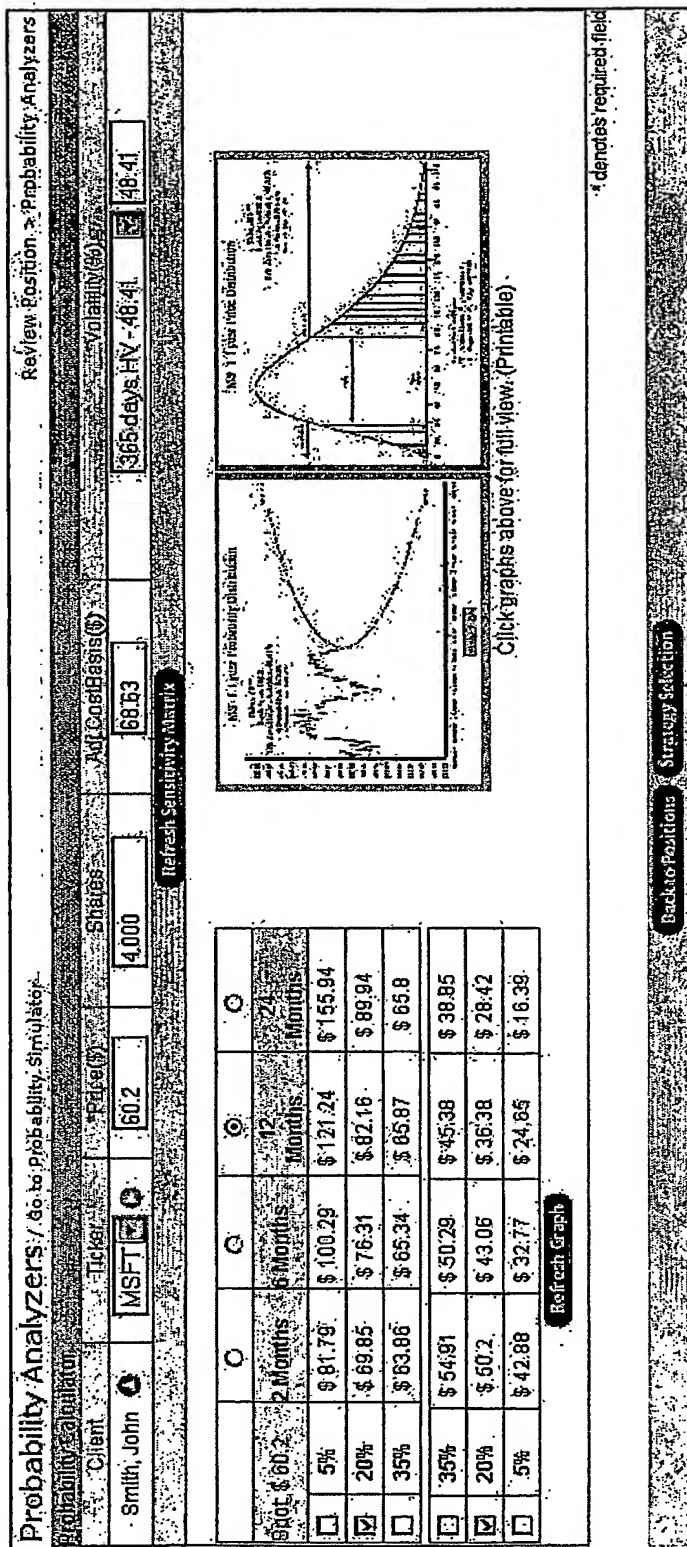


Fig. 20

	0	6	12	18	24
Months	Months	Months	Months	Months	Months
8801.5					
5807					
1%	\$72.41	\$83.53	\$98.18	\$118.26	
20%	\$65.38	\$70.00	\$82.75	\$97.84	
35%	\$59.24	\$63.31	\$74.83	\$87.63	
35%	\$65.86	\$70.48	\$82.92	\$97.83	
20%	\$57.81	\$61.35	\$71.43	\$83.37	
5%	\$47.68	\$50.63	\$59.33	\$67.64	

Upside Probability

Downside Probability

Refresh Graph

Fig. 21

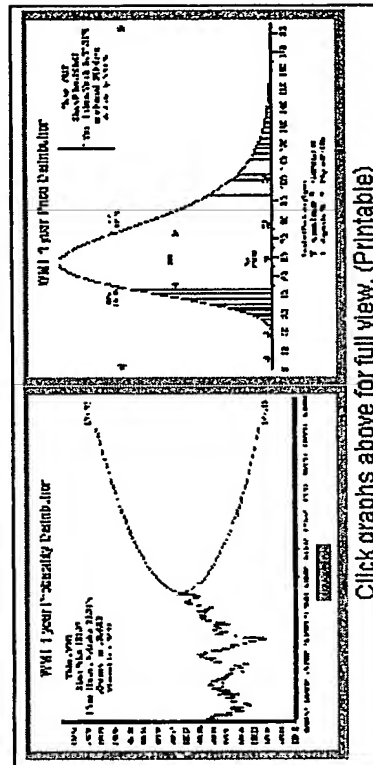


Fig. 22

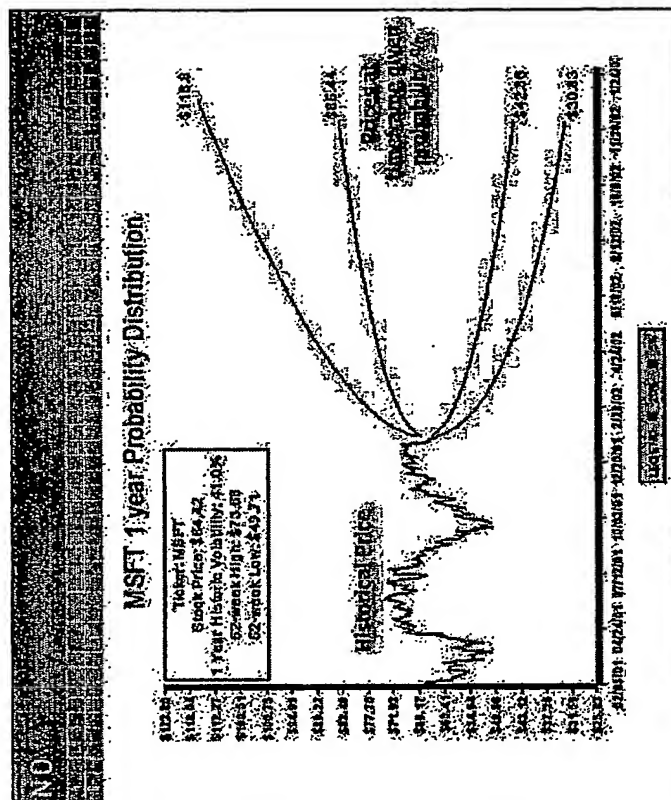


Fig. 23

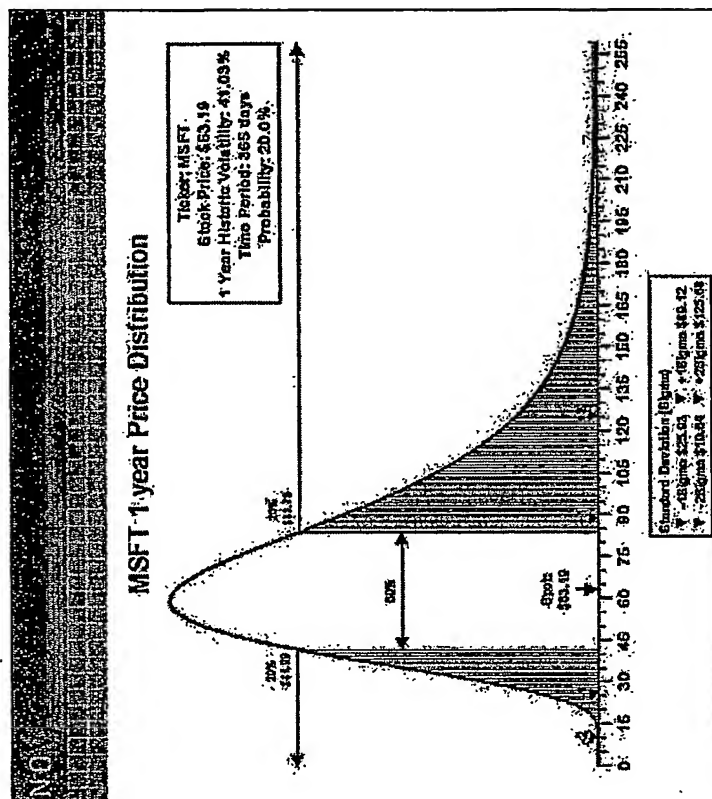


Fig. 24

Probability Analyzers / Go to Probability Calculator

Review Position > Probability Analyzers

Client: Smith, John MSFT 58.55 365 days HV - 48.62 68.63 4.000

Day: 365 High: 81.97 Low: 23.42

Monte Carlo Simulation: 1000 # of iterations

Calculate

Output	High	Low
Closes Beyond	0.0	
Ever Touches	0.0	
Closes Below	0.0	
Ever Touches	0.0	

Click graphs above for full view (Printable)

\* denotes required field

Fig. 25

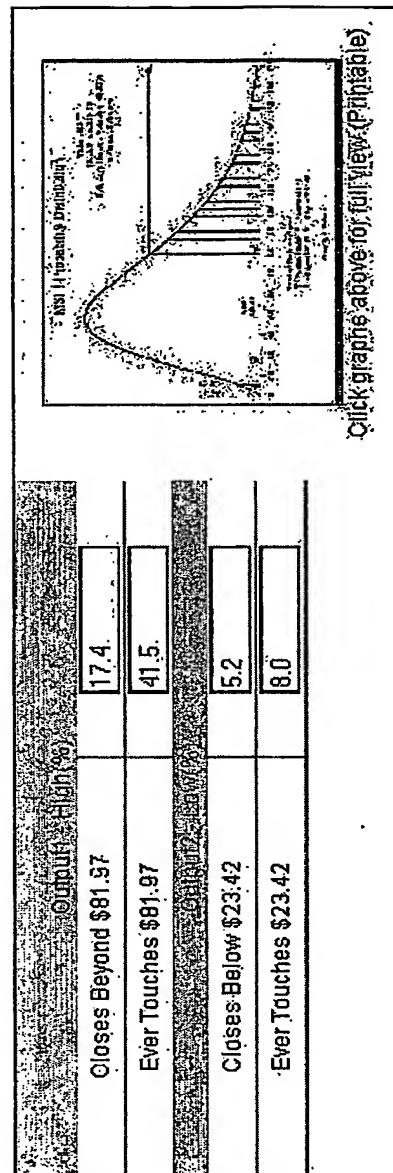


Fig. 26



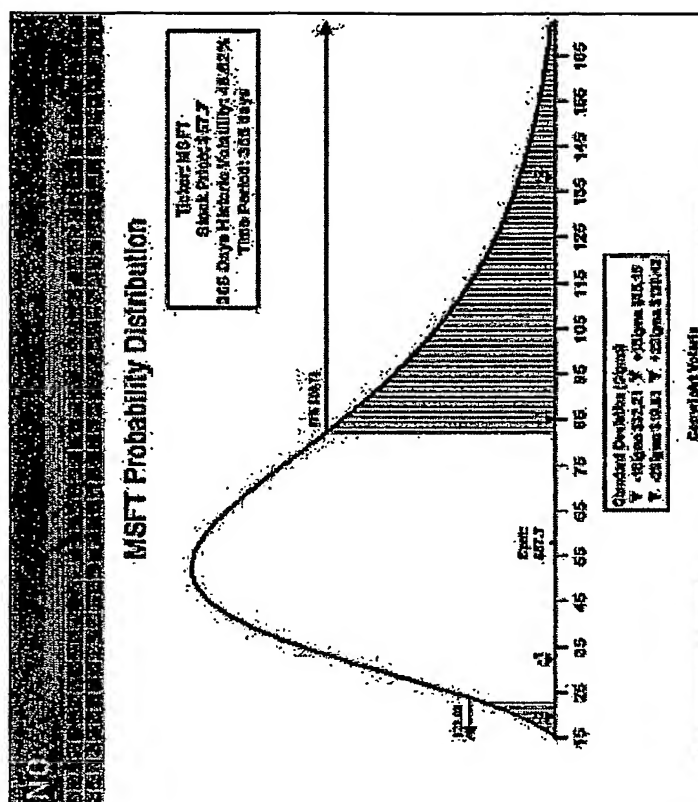


Fig. 27

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☒ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☒ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**